No. 742,398. PATENTED OCT. 27, 1903.

M. C. DONAHUE.

HANGER FOR ELECTRIC LAMPS OR THE LIKE.

APPLICATION FILED MAY 1, 1902.

NO MODEL.

Fig. 1.

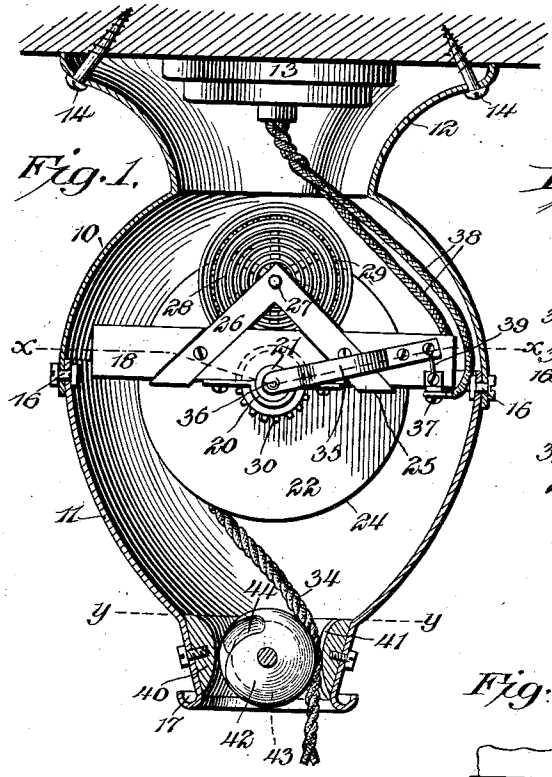


Fig. 2.

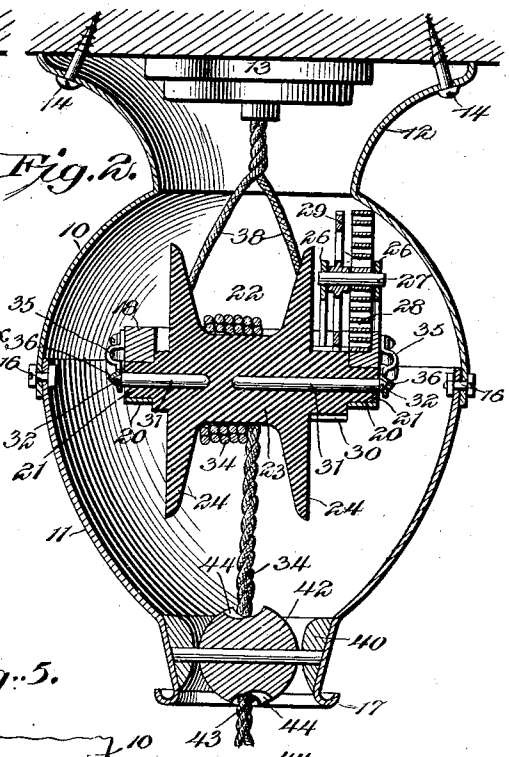


Fig. 5.

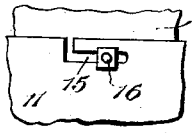


Fig. 3.

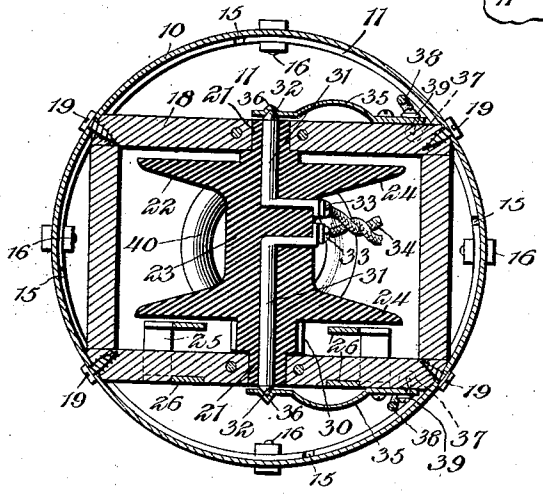


Fig. 4.

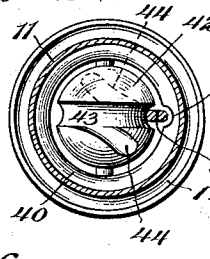
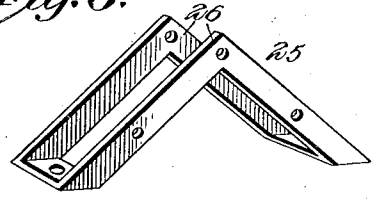


Fig. 6.



Witnesses.
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No. 742,398. Patented October 27, 1903.

UNITED STATES PATENT OFFICE.

MICHAEL C. DONAHUE, OF COLORADO SPRINGS, COLORADO, ASSIGNOR OF THREE-FOURTHS TO JOHN SKINNER, F. G. ARMBRUSTER, AND F. A. NEFF, OF COLORADO SPRINGS, COLORADO.

HANGER FOR ELECTRIC LAMPS OR THE LIKE.

SPECIFICATION forming part of Letters Patent No. 742,398, dated October 27, 1903.

Application filed May 1, 1902. Serial No. 105,515. (No model.)

To all whom it may concern:

Be it known that I, MICHAEL C. DONAHUE, a citizen of the United States, residing at Colorado Springs, in the county of El Paso and State of Colorado, have invented a new and useful Hanger for Electric Lamps or the Like, of which the following is a specification.

The present invention relates to hangers, and particularly to adjustable hangers for electric lamps and the like.

Among the more important objects of the invention the aim is to provide a comparatively inexpensive structure which will support a lamp at any height desired and in which there will be no sparking during the raising and lowering of such lamp, to provide an improved clutch for maintaining the lamp or other article supported at the desired elevation, and to employ a casing which will entirely inclose the mechanism, said casing being so constructed that it may be taken apart to expose the different elements without, however, dismembering said elements or affecting their operation.

The preferred embodiment of the invention is fully illustrated in the accompanying drawings, wherein—

Figure 1 is a vertical longitudinal sectional view through the improved hanger. Fig. 2 is also a vertical sectional view taken at right angles to Fig. 1. Fig. 3 is a horizontal sectional view taken on the line X X of Fig. 1. Fig. 4 is a horizontal sectional view taken on the line Y Y of Fig. 1. Fig. 5 is a detail view, in side elevation, more clearly showing the manner of connecting the two sections of the casing. Fig. 6 is a detail perspective view of the supporting-frame for the spring-carrying shaft.

Similar numerals of reference designate corresponding parts in all the figures of the drawings.

In carrying out this invention, as shown, an open-ended tubular casing is employed that is made up of an upper section 10 and a lower section 11. The upper section 10 has an enlarged base portion 12, that is arranged to surround an ordinary ceiling-rosette, as 13, being secured in place by screws or other suitable fastenings 14, passed through said base. The lower portion of the upper section 10 is substantially semispherical in form, and the upper end of the lower section 11 is fitted within the same, said upper end being provided with a plurality of bayonet-slots 15, as is clearly illustrated in Fig. 5. Inwardly-extending bolts 16, secured to the lower portion of the upper section 10, engage in these slots, as shown, thereby detachably securing the sections together. The lower section 11 tapers toward its lower end, which is substantially circular in cross-section, the lower edge being bent upwardly, as shown at 17. Within the lower portion of the upper section is secured a horizontally-rectangular supporting-frame 18, that fits snugly within the same and is fastened in place by screws 19, that are passed through the casing-section 10 and engage in the corners, as illustrated in Fig. 3. This frame is provided with alined journal-bearings 20, in which are mounted the hubs 21 of a winding-drum 22. The winding-drum is preferably molded of some insulating material, such as hard rubber or the like, and comprises a body portion 23, having integral side flanges 24, the hubs 21 being also integral.

A frame 25 is secured to one of the side bars of the horizontal supporting-frame 18, said frame comprising triangular standards 26, that extend above said supporting-frame and carry a stub-shaft 27, to which is secured a coiled spring 28, one end of said spring being attached to the supporting-frame. A gear-wheel 29 is also fastened to the stub-shaft, the teeth of said wheel meshing with teeth 30, formed upon one of the hubs of the drum.

Embedded in the drum 22 are conducting-wires 31, which extend longitudinally and centrally through the hubs 21 and project beyond the ends of the same, said projecting ends being pointed, as shown at 32. The inner portions of the conducting-wires 31 are offset, as shown in Fig. 3, and extend to adjacent though separate points upon the exterior of the body between the flanges 24 thereof, said ends being provided with suitable binding-screws 33. It will be noted that

these ends are close to one of the flanges and, in fact, much nearer one than the other. The ends of the lamp-cord 34 are attached by means of the binding-screws 33 to the inner ends of the conducting-wires. Tension-springs 35, secured to the side bars of the supporting-frame, bear against the outer ends of the conducting-wires, said springs having sockets 36 in their free ends, which receive the pointed ends of said wire. Binding-posts 37 are attached to the supporting-frame contiguous to the secured ends of the tension-springs, and to these posts are attached the ends of the leads 38, that extend from the rosette 13. Connections are made between the binding-posts 37 and the secured ends of the tension-springs by means of fuse-wires 39.

A holding-ring 40 is fastened within the contracted lower end of the lower section 11, said ring being provided in its inner face with a transversely-disposed guideway 41. A spherical clutch-roller 42 is journaled in the ring and is provided with a central peripheral groove 43, that is located in the same plane as the guideway 41. From this groove extend short lateral grooves 44, that are located on opposite sides of said groove and preferably on opposite sides of the roller. This construction will be readily understood especially by reference to Fig. 4. The lamp-cord 34 extends between the roller 42 and the ring 40, being always located in the guideway 41 and the groove 43 during the manipulation of said cord.

It will be understood that when the connections are made as shown (the rosette being attached to any source of electrical energy) the current will flow through the leads 38, through the fuse-wires 39, to the springs. From thence it will pass by means of the conducting-wires to the lamp-cord, and consequently to the lamp attached to the lower end of said cord. When said lamp is in its highest position, the drum will have a number of wraps of wire upon it, and the spring will be unwound. When it is desired to lower the lamp by drawing downwardly upon the cord, said cord will be guided by the lateral grooves 44 into the central groove 40 and the guideway 41, so that it is free to move. At the same time as the cord unwraps from the drum said drum will be rotated, thereby winding the coiled spring. When the desired adjustment has been obtained by moving the cord laterally and allowing it to rise, it will move into one of the lateral grooves until the end thereof is reached, whereupon the roller will clamp it against the ring, thus holding it against further movement. To raise the lamp, it is only necessary to again bring the cord to its central position, and by keeping it in the guideway 41 it can freely move in either direction. During the rotation of the drum the springs 35 will always be pressed firmly into engagement with the projecting ends of the conducting-wires 31, so that there will be no sparking at these points, and even should wear take place their resiliency is sufficient to keep them in the necessary engagement. Their inner terminals are arranged contiguous to one of the flanges, so that the lamp-cord will wrap evenly back and forth and there will be no unnecessary bunching at one point. This is a very desirable feature, as an even wrapping makes easier manipulation. Should it become desirable from any cause to examine any of the operative parts or elements, the casing may be readily dismembered by rotating the lower section a short distance and then lowering the same. This exposes the spring-drum and the mechanism connected thereto, though as said drum and mechanism are entirely supported in the upper section the several parts will still be in operative relation and will not in any manner be disturbed. In like manner this disassociation gives better access to the clutch. By this construction it will therefore be apparent that a hanger is provided having a number of advantages over those constituting the prior art, first, in that the entire mechanism is housed and protected against dust and injury, the parts being comparatively inexpensive and the connections being so made that the danger of sparking is eliminated. The clutch is extremely simple and has decided advantages in that the cord may be locked by lateral movement in either direction, while its free movement is secured by maintaining it in the guideway 41. Then again, as already described, the several parts may be readily exposed for the purpose of examination and repair without dismembering the entire hanger.

From the foregoing it is thought that the construction, operation, and many advantages of the herein-described invention will be apparent to those skilled in the art without further description, and it will be understood that various changes in the size, shape, proportion, and minor details of construction may be resorted to without departing from the spirit or sacrificing any of the advantages of the invention.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a hanger of the class described, the combination with a substantially horizontal open frame, of means engaging the frame to support the same, a drum arranged within the frame and having hubs journaled thereon, contact devices projecting from the hubs, springs secured to the frame and bearing against the contact devices, spaced standards secured to one side of the frame and located directly over one of the hubs, and driving mechanism for the drum journaled to and between the standards, said mechanism having a geared engagement with the hub located beneath the same.

2. In a hanger of the class described, the combination with a spring-operated drum, of a ring-collar supported below the drum, and

a spherical clutch-roller journaled within the collar, said roller having a central peripheral groove, and lateral grooves leading from said peripheral grooves on opposite sides thereof.

3. In a hanger of the class described, the combination with a spring-operated drum, of a collar supported below the drum and having a transverse guideway in its inner wall, and a clutch-roller journaled within the collar, said roller having a peripheral groove, and a lateral groove leading from the peripheral groove.

4. In a support of the class described, the combination with a casing comprising upper and lower semispherical sections, of a horizontal frame secured to the upper section above the lower edge thereof, a drum journaled on the frame, and a detachable connection between the adjacent ends of the sections, said connection being located below the point of attachment of the frame to the upper section.

5. In a support of the class described, the combination with an open-ended tubular casing comprising an upper and a lower section, said upper section having an enlarged hollow base portion arranged to surround a rosette, of means for detachably securing together the adjacent ends of the sections, a horizontal supporting-frame attached to the lower portion of the upper section below the hollow base, a spring-drum journaled upon the frame, and a cord-clutch mounted on the lower section.

6. In a support of the class described, the combination with an open-ended tubular casing comprising an upper and a lower section, said upper section having an enlarged hollow base portion arranged to receive and surround a rosette, the upper end of the lower section overlapping the lower end of the upper section and having bayonet-slots, said lower end of the upper section having pins that fit in said slots, whereby the two sections are detachably secured together, of a horizontal angular supporting-frame attached within the lower end of the upper section at separated points, a spring-drum journaled upon the frame and depending within the lower section, a holding-ring secured within the lower end of the lower section, and a cord-clutch roller journaled in and coacting with said ring.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

MICHAEL C. DONAHUE.

Witnesses:
C. F. CLARKE,
W. E. HARMON.